REMARKS

Claims 20-49 were pending in the application.

Claims 32-48 are withdrawn from further consideration as being drawn to a non-elected invention.

Claims 20-31 and 49 are now pending and examined on their merits.

Claim 21 is amended to correct a typographical error.

The specification is amended to include cross-reference to related applications.

No new matter is added.

Double Patenting Rejections

Claims 20-30 and 49 are provisionally rejected for being obvious over claims 1-17 of copending application number 10/563,348. In response to the objection, Applicant files, herewith, a terminal disclaimer. Accordingly, Applicant respectfully requests that the provisional obviousness-type double patenting rejection of claims 20-30 and 49 be withdrawn.

Claims 20-30 and 49 are provisionally rejected for being obvious over claims 1-19 of copending application number 10/563,354. In response to the objection, Applicant files, herewith, a terminal disclaimer. Accordingly, Applicant respectfully requests that the provisional obviousness-type double patenting rejection of claims 20-30 and 49 be withdrawn.

Claims Rejections 35 U.S.C. 103

Claims 20-30 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehrfeld et al. (US 2003/0039169 A1). Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehrfeld et al. (US 2003/0039169 A1) in view of Pardikes (US 6,207,719 B1). The Examiner's rejections have been carefully considered.

Applicant argues that claims 20-31 and 49 are not unpatentable over Ehrfeld or Ehrfeld in view of Pardikes because the cited references do not teach every limitation recited in claims 20 and 49. Specifically, neither reference teaches or suggests microstructure units (6) that divide a linking channel into two or more part channels before opening into the mixing zone.

The rejections of claims 20-31 and 49 in the Office Action mailed 05/05/2009 do not reference the microstructure units recited in the claims and no assertion is made that either of the cited references teach or suggest microstructure units.

The disk shown in Figure 3a of Ehrfeld do not show microstructure units that divide a (single) linking channel into two or more part channels, as recited in present claims 20 and 49. Rather, the disk of the referenced art shows an inlet channel that is sequentially bifurcated to produce multiple separate channels that open into a mixing zone.

There is no structure present in Fig 3a or described in the text of Ehrfeld that can reasonably be confused with the microstructure units recited in the present claims. The terms "microstructure unit" and "microstructure part" are described and defined in the context of a linking channel in the present claims and specification. Microstructure units and part channels are described in the last paragraph on page 2 of the present specification. A part channel is formed by the division of a feed stream into part streams by microstructure parts just before the outflow of the feed stream into the mixing zone. This description is in agreement with the language recited in the present claims.

Ehrfeld describes a structure that is clearly structurally distinct from any structure recited in the present claims. Paragraph 51 in Ehrfeld teaches that a supply channel is sequentially bifurcated in stages to form a plurality of microchannels.

The micromixer taught by Ehrfeld requires at least two stages of bifurcations in fluid streams leading to a mixing zone (abstract). The sequential bifurcation of a channel into a plurality of distinct microchannels before outflow into a mixing zone cannot reasonably be equated with a single channel that is divided into a plurality of part channels by microstructures just before outflow into a mixing zone. A "bifurcation" as described Ehrfeld is clearly the separation of one channel into two channels. As such, a "bifurcation" cannot be confused with a "microstructure unit." Similarly, daughter "channels" formed by the bifurcation of a parent channel, as described in Ehrfeld, cannot be confused with "part channels" formed by microstructure units at the opening of a channel into a mixing zone, as described in the present specification.

In view of the foregoing arguments, Applicant respectfully requests that the rejection of claims 20-31 and 49 under 35 U.S.C. 103(a) be withdrawn.

Should the rejections be maintained, Applicant respectfully requests that the Examiner provide one or more citations in the cited prior art that teaches microstructure units and part channels.

Conclusion

Applicant believes that the language recited in the present claims adequately distinguishes the presently claimed microstructure units and part channels from the bifurcations and microchannels taught by Ehrfeld. Accordingly, the application is believed to be in condition for allowance. Action to this end is courteously solicited.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully Submitted,

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